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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/145,982	09/03/1998	TOMOHARU HASE	684.2728	6632

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EXAMINER

NGUYEN, HUNG

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 06/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/145,982

Applicant(s)

HASE, TOMOHARU *MC*

Examiner

Henry Hung V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Election/Restrictions

1. Applicant's election without traverse of group II in Paper No. 31 is acknowledged.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. The drawings fail to show "a plurality of optical elements each having a plurality of apertures" as claimed (see claims 32, 33 for example). All features must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 27-29, 32-34, 36-46, 48-50, 54-56, 57-67 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. While the specification of the instant applicant discloses "a straight line connecting the passages 32 of adjacent lens supports

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31 is out of parallel to an optical axis of the lens 30), the specification lacks adequate support for the claimed provision of “a plurality of optical component/(lens), each having one aperture, wherein a straight line....the adjacent optical elements” (see claim 26 for example) or “wherein apertures of adjacent...and 180 degrees” (see claim 28 for example) or “wherein a straight line....the adjacent optical elements”.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 27-29, 32-34, 36-46, 48-50, 54-56, 57-67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. As to claims 27-29, 32-34, 36-46, 48-50, 54-56, 57-67, the recitation of “a straight line connecting the passages 32 of adjacent lens supports 31 is out of parallel to an optical axis of the lens 30), the specification lacks adequate support for the claimed provision of “a plurality of optical component/(lens), each having one aperture, wherein a straight line....the adjacent optical elements” (see claim 26 for example) or “wherein apertures of adjacent...and 180 degrees” (see claim 28 for example) or “wherein a straight line....the adjacent optical elements” are vague and not clearly understood (see rejection under 35 U.S.C. 112, first paragraph, supra).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 25 and 42 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Crone (U.S.Pat. 3,624,819).

With respect to claims 25 and 42, Crone teaches an exposure apparatus/method comprising all of the structures as set forth in the instant claim such as: an optical system (fig.1) having an optical element (12) having at least one aperture (16) through which a gas/air can be transmitted.

10. Claims 31, 35 and 43, 36-67 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanimoto et al (U.S.Pat. 4,690,528).

With respect to claims 31 and 43, Tanimoto et al (fig.7) discloses an exposure apparatus comprising all basic features of the instant claims including: an optical system (201) having at least one optical element (L1-L5) and including a supporting portion (205) for supporting at least one optical element and having a plurality of apertures (211-213) through which a gas can flow.

As to claim 35, Tanimoto teaches an illumination optical system (102) for illuminating a reticle (R).

With respect to claims 36-67, Tanimoto et al teaches a gas supply (223); and the optical system having a plurality of spaces (a-d) where the apertures of the two adjacent two lenses are placed "at rotational positions, about an optical axis of the optical system, with angle other than zero degree and 180 degrees"/ or "the a straight line connecting apertures of the adjacent two separating portions is not parallel to any of the optical axes /or is not contain in any of planes

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including optical axes of the optical elements of the adjacent two separating portion (as clearly illustrated from fig. 7).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 26-30, 32-34 are rejected under Tanimoto et al (U.S.Pat. 4,690,528) in view of either U.S.Pat. 5,221,822 to Duny or U.S.Pat. 5,227,605 to Boudot et al.

With respect to claims 26-30 and 32-34, Tanimoto et al (fig. 7) discloses an exposure apparatus comprising substantially all of the limitations of the instant claims. Tanimoto et al does not expressly disclose each of the optical element having at least one aperture formed thereon for passing gas. However, this structure is well known per se. For instance, Duny (fig. 1) or Boudot (fig. 1) teaches optical system comprising lenses having notches formed on the edges of the lenses through which a gas can be passed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide lenses formed with notches on the edge as suggested by Duny or Boudot into the exposure device of Tanimoto et al for the purpose of passing gas between the spaces separated by lenses of the projection optical system. The purpose of using lenses formed with a notch would have been to simplify the structures of the lens barrel whereby the cost of the exposure device can be reduced.

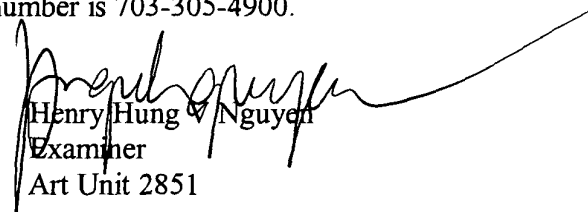
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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Hung V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7723 for regular communications and 703-305-7723 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.



Henry Hung V Nguyen
Examiner
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hvn
June 21, 2002